

# Truck and Bus Regulation Proposed Amendments



**Workshops**  
**January 20 - El Monte**  
**January 25 - Sacramento**  
**January 26 - Fresno**

California Environmental Protection Agency



**Air Resources Board**

## Today's Presentation

- Background
- Truck and Bus regulation summary
- Proposed amendments
- Cost analysis methodology



## Regulation Background

- Approved December 2008 with changes
- Informational update December 2009
  - Emissions lower because of economy
- Amendments require formal Board action
  - Workshops
  - Complete staff analysis – February 18
  - Publish staff report and proposed amendments - March 4
  - Board hearing - April 22

3

## Regulation Structured to Meet State Implementation Plan (SIP)

- Regulation meets minimum NO<sub>x</sub> and PM<sub>2.5</sub> reductions to meet SIP targets for all years
- Critical for meeting federal air quality attainment
  - PM and NO<sub>x</sub> reductions for PM<sub>2.5</sub> attainment in 2014
  - NO<sub>x</sub> reductions for ozone in 2017, 2020, and 2023
- No other measures can achieve same emissions reductions

4

## Consequences of Not Securing the Reductions Relied Upon in the Regulation

- Diminished public health benefits
- A need to make up shortfall with other regulations by 2014
- A possible disapproval of the SIP leading to:
  - Freezing of transportation funds
  - A federal implementation plan to address the shortfall
- Failure to attain the PM<sub>2.5</sub> standard resulting in new planning requirements

5

## Existing Regulation Summary



## Regulation Overview

- Phase-in PM filters 2011 to 2014
- Phase-in cleaner engines 2013 to 2023
  - All 2010 model year engines or equivalent by 2023
- Three compliance options
  - Best available control technology (BACT) schedule
  - Percentage of fleet requirements
  - Fleet average
- Special provisions, credits



7

## Special Provisions Summary

- Small fleets
- Retirement credits
- Low use
- Usage below 7500 miles
- Attainment area operation
- Agricultural vehicles
- Early PM retrofit credits
- Unique vehicles
- PM retrofit safety
- Manufacturer delays
- Certain cab-over engine truck tractors
- Hybrid and alternative fueled vehicles credits
- Three day pass
- School buses
- Motor coaches
- Two engine sweepers

8

## Impact of Economy on Emissions

### Effect of Recession on Trucking Today

- Overall truck activity in California is down between 10% and 18% since the 2007 peak
- National new truck sales are at their lowest levels in 25 years
- The CA registered truck population
  - Has not grown since 2007
  - Getting older because of fewer replacements
  - Fewer clean trucks than original projection

## Projecting Emissions Forward to 2014

- Evaluated all available forecasts
- Developed two bounding scenarios
  - Faster and Slower growth
  - Estimated California truck activity and sales for each
- Compared results to:
  - Expected emissions (from staff report)
  - SIP obligations

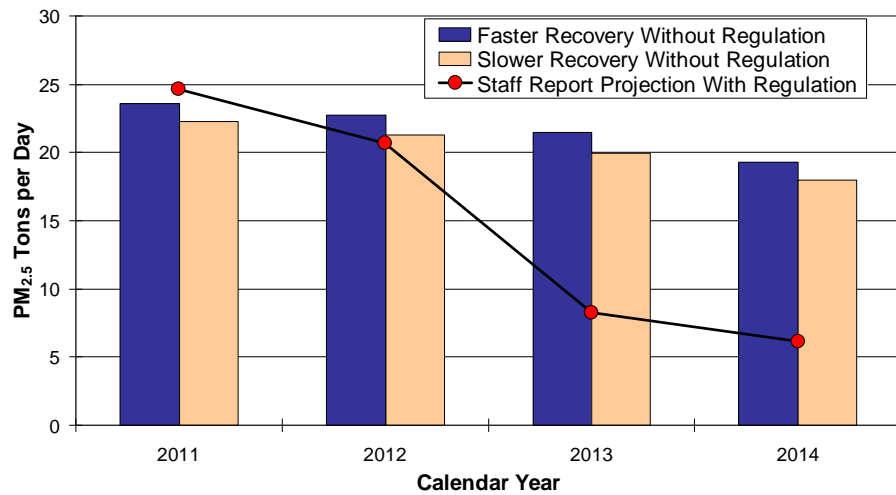
11

## Multiple Forecasts Used

- California Specific
  - California Department of Finance (to 2011)
  - California Legislative Analyst's Office (to 2015)
  - California Energy Commission (to 2030)
  - UCLA Anderson School (to 2011)
  - Beacon Economics (to 2013)
  - University of the Pacific (to 2014)
- Nationwide
  - Congressional Budget Office (to 2019)
  - Energy Information Agency (to 2030)

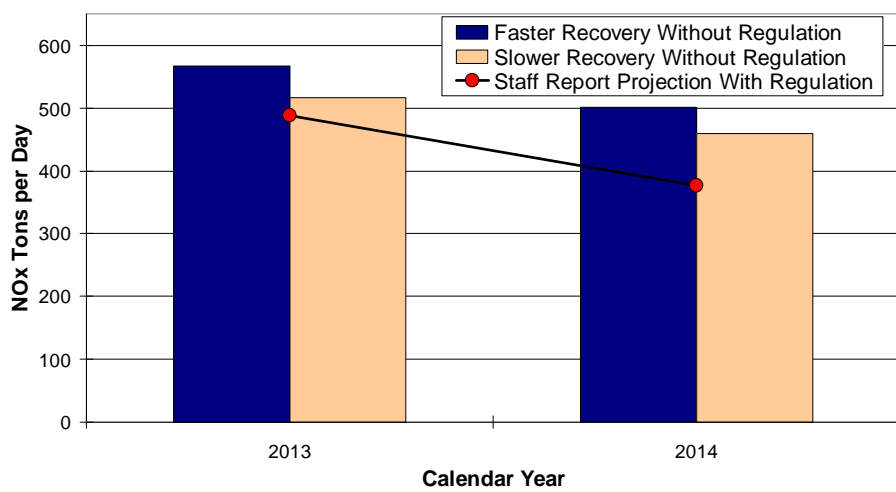
12

## PM<sub>2.5</sub> Emissions Projection



13

## NOx Emissions Projection



14

## Economic Impact Conclusions

- Recession results in lower emissions today
- In 2011 emissions expected to be lower than original estimate
- After 2012 the rule will result in lower emissions than the recession alone
- Rule needed to meet SIP targets in 2014
  - Federal air quality standards under the Clean Air Act
  - Protect public health

15

## Board Direction

- Provide near term relief
- Focus on smaller businesses
- Stay within emissions budget of original analysis
- Must meet SIP commitments
- Consider impact on funding opportunities
- Analyze business cash flow
- Consider impact on PM retrofit suppliers and installers
- Make other appropriate changes

16



## Proposed Amendments

### Option 1 - Medium Fleet Provision

- Additional flexibility for medium sized fleets
  - Defined as 4 to 20 vehicles
  - Will evaluate appropriateness of higher number
- No PM requirements in 2011 & 2012
- Reduce existing PM filter requirement in 2013
  - From 75% to 60% PM filters
- Requirements unchanged in 2014

## Option 1 – Medium Fleet Provision Example

Requirement by Fleet Size	Total PM filters in fleet by January 1:			
	2011	2012	2013	2014
Existing Regulation	25%	50%	75%	100%
Option 1 – 20 or fewer trucks	0%	0%	60%	100%

\* No change for fleets with 21 or more vehicles

19

## Option 2 - PM Filter Credit

- Reduces PM requirements for all fleets in 2011 and 2012
  - Credit of up to 10 fewer PM filters per year
- Graduated reductions by fleet size
  - No PM requirements for fleets of 20 vehicles
  - Some delay for fleets of 40 vehicles
  - Up to 10 fewer PM filters for larger fleets
- Requirements in 2013 and 2014 unchanged

20

## Option 2 – PM Filter Credit Example

Requirement by Fleet Size	Total PM Filters in Fleet by January 1:			
	2011	2012	2013	2014
Existing Regulation	25%	50%	75%	100%
Option 2 - 200 trucks	20%	45%	75%	100%
Option 2 - 100 trucks	15%	40%	75%	100%
Option 2 - 40 trucks	0%	25%	75%	100%
Option 2 - 20 or fewer trucks	0%	0%	75%	100%

21

## Option 3 - 1 Year Deferral

- One year deferral for all fleets
- No requirements in 2011
- 3 year PM filter phase-in instead of 4 years
  - Reduce PM filters requirements in 2012 and 2013
- Requirements unchanged in 2014

22

## Option 3 – 1 Year Deferral

Requirement	Total PM Filters in Fleet by January 1:			
	2011	2012	2013	2014
Existing Regulation	25%	50%	75%	100%
Option 3 - (All fleets)	0%	33%	66%	100%

23

## Proposed Early PM Retrofit Credits

- Preserve health benefits
- Expand retrofit infrastructure
- Spread out compliance action and costs
- All credits expire January 1, 2014

Fleet size	Prior to	Form of Credit	Option
21 or more vehicles	2011	Double PM & NOx Exempt	1
20 or fewer vehicles	2011	Double PM & NOx Exempt	1, 2 & 3
	2012	NOx Exempt	1 & 2

Double PM – Treats installation of one PM filter as if two installed until 2014.  
 NOx Exempt – Allows fleet to exclude vehicle from NOx requirements in 2013.

24

## Retirement Credits

- Reduces actions required if fleet size in compliance year is smaller than on July 1, 2008
  - Retired vehicle treated as if having a 2010 engine
- Amend to allow non-operated vehicles to count as retired
- Amend to simplify reporting and record keeping
  - Clarify that California registered vehicles need not operate 1,000 miles and 100 hrs

25

## Drayage Trucks

- Increase flexibility for fleets with drayage trucks and other diesel vehicles
  - Currently fleets with infrequent port visits must exclude cleaner trucks
- Amend Truck and Bus regulation to allow drayage trucks to be included in compliance demonstration
  - Option to report all drayage trucks in addition to non-drayage trucks
- Would not change drayage truck regulation

26

## Additional Amendments

- Delay early reporting by 9 months to claim retirement credits and early PM credit
  - Agricultural vehicles and engine street sweepers must still report by March 31, 2010
- Amend low-use provision to improve flexibility
- Extend added flexibility equally to school bus fleets including small fleet provisions
- Allow agricultural fleets to utilize small fleet provisions

27

## Cost Methodology

## Economic Analysis

- Did cash flow analysis for case studies for actual fleets in staff report
- Methodology described in staff report
  - Case studies in Appendix J
- Prior analysis done when economy was better
- Economic impacts vary by fleet

29

## Proposed Economic Analysis Methodology

- Case studies – various industry groups
- Same approach as staff report
- Cash-flow analysis
  - Businesses complying with multiple regulations
  - As a percentage of revenue
- Evaluation of business finances using standard financial ratios
- Impact of amendments and early compliance on near term cash flow

30

## Recent Survey Data Requests

- Type of business
  - Truckload, moving, construction, logging, etc.
- Financial information (2006-2009)
  - Profit and loss statements/balance sheets
  - Changes in revenue/expenses
- Fleet Information (2006-2009)
  - On-road and off-road vehicles
  - Annual miles traveled
  - Number of vehicles